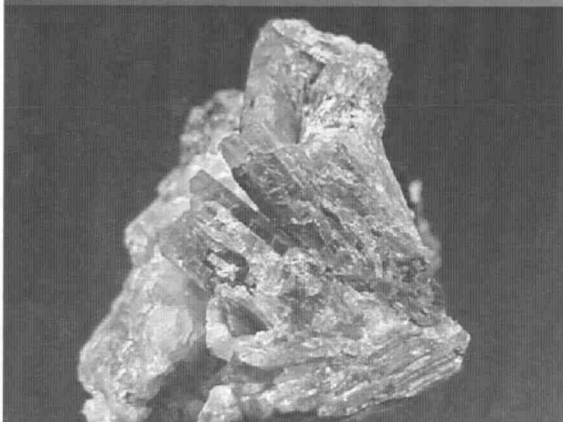


Contaminant Screening Study (CSS) Field Personnel Orientation Program

SDMS Document ID
495631

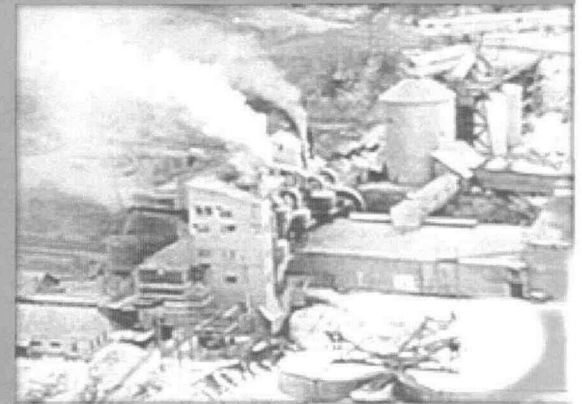


ADMINISTRATIVE RECORD

Attended Orientation For 5 CDM employees on 5/29/02 K

Site Background

- Vermiculite mined at Zonolite Mountain was contaminated with naturally present asbestos (Libby amphiboles)
- Occupational and non-occupation exposures
- Malignant mesothelioma, asbestosis, lung cancer
- 1999 EPA ERB initiated emergency response
- Phase 1
- Phase 2



Purpose of the Contaminant Screening Study

To determine the presence or absence of potential Libby amphibole (LA) sources at each property in the study area (Figure 2-2 of CSS SAP).

LIBBY AMPHIBOLE SOURCE TYPES

Primary Sources are greater than 1% LA by weight

- ▶vermiculite insulation
- ▶Vermiculite piles
- ▶Tremolite rocks
- ▶Soils

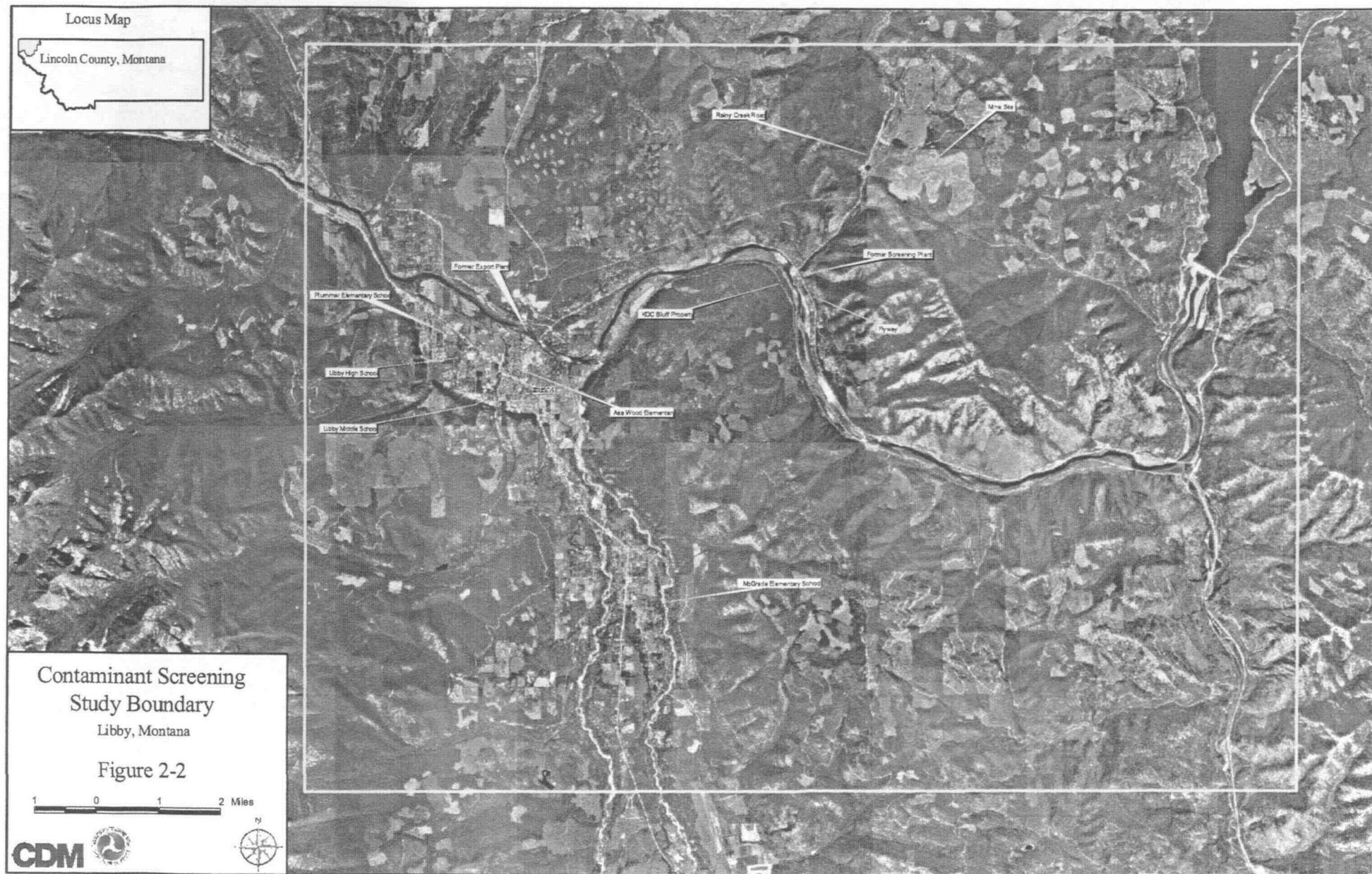
↓
only soil
See App A
of SAP

Secondary Sources are less than 1% LA by weight

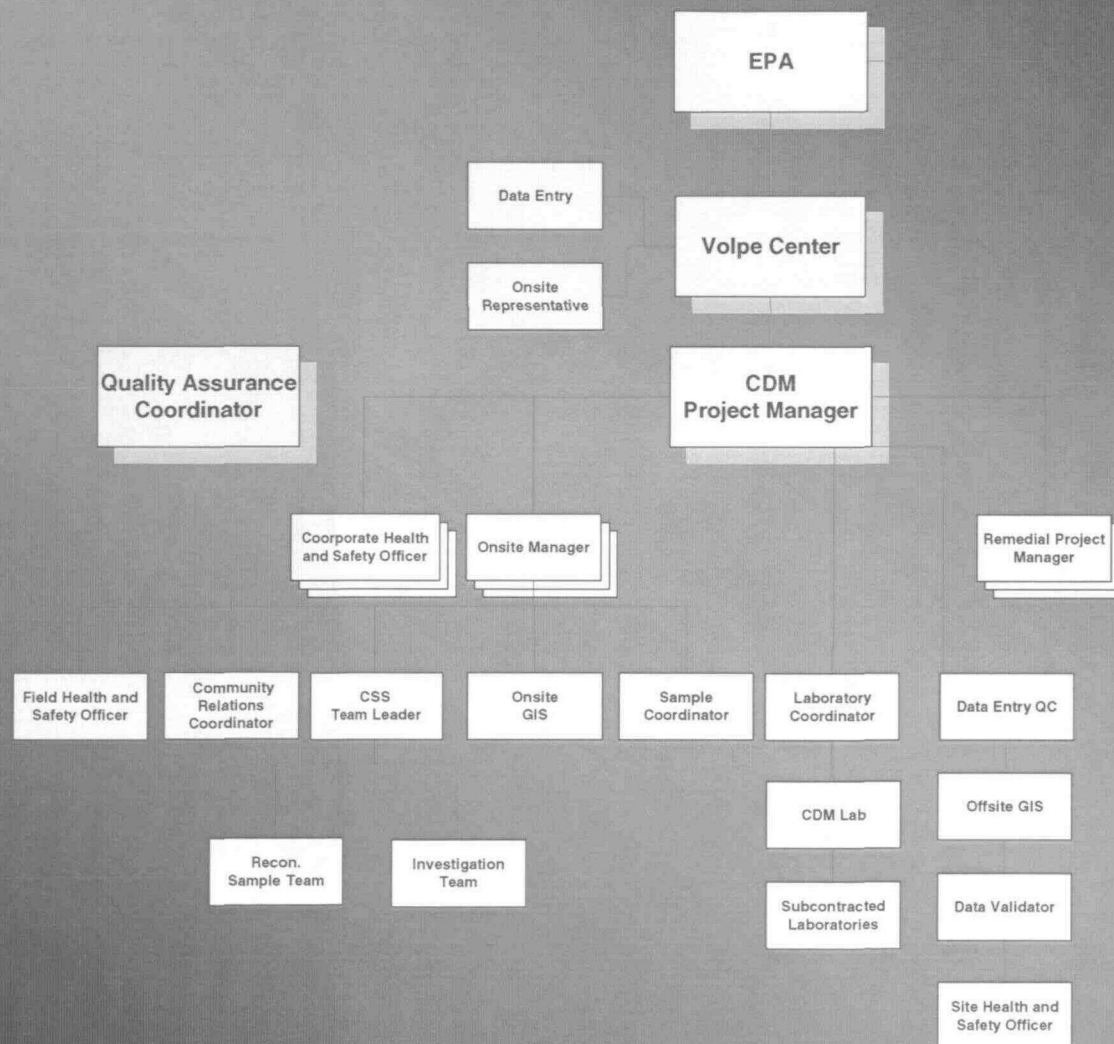
- ▶Soils
- ▶Indoor dust
 - ✓Past vermiculite insulation use
 - ✓Mining history
 - ✓Asbestos-related disease
 - ✓Close proximity to properties with known LA contamination

Locus Map

Lincoln County, Montana



CSS Project Management Organization Chart



Determining the Presence or Absence of LA

CSS STUDY PROCESS

Selecting Study
Locations

Public Awareness
and Reconnaissance

Goal = 25 homes per day

Per Team = 6 homes per day

Sample Analysis and
Data Validation

Field Screening and
Sampling Activities

Goal = 25 homes per day

Per Team = 5 homes per day

Selecting Study Locations

- Screen Previous Data

Screen of Phase I Results

- Study Grid Area

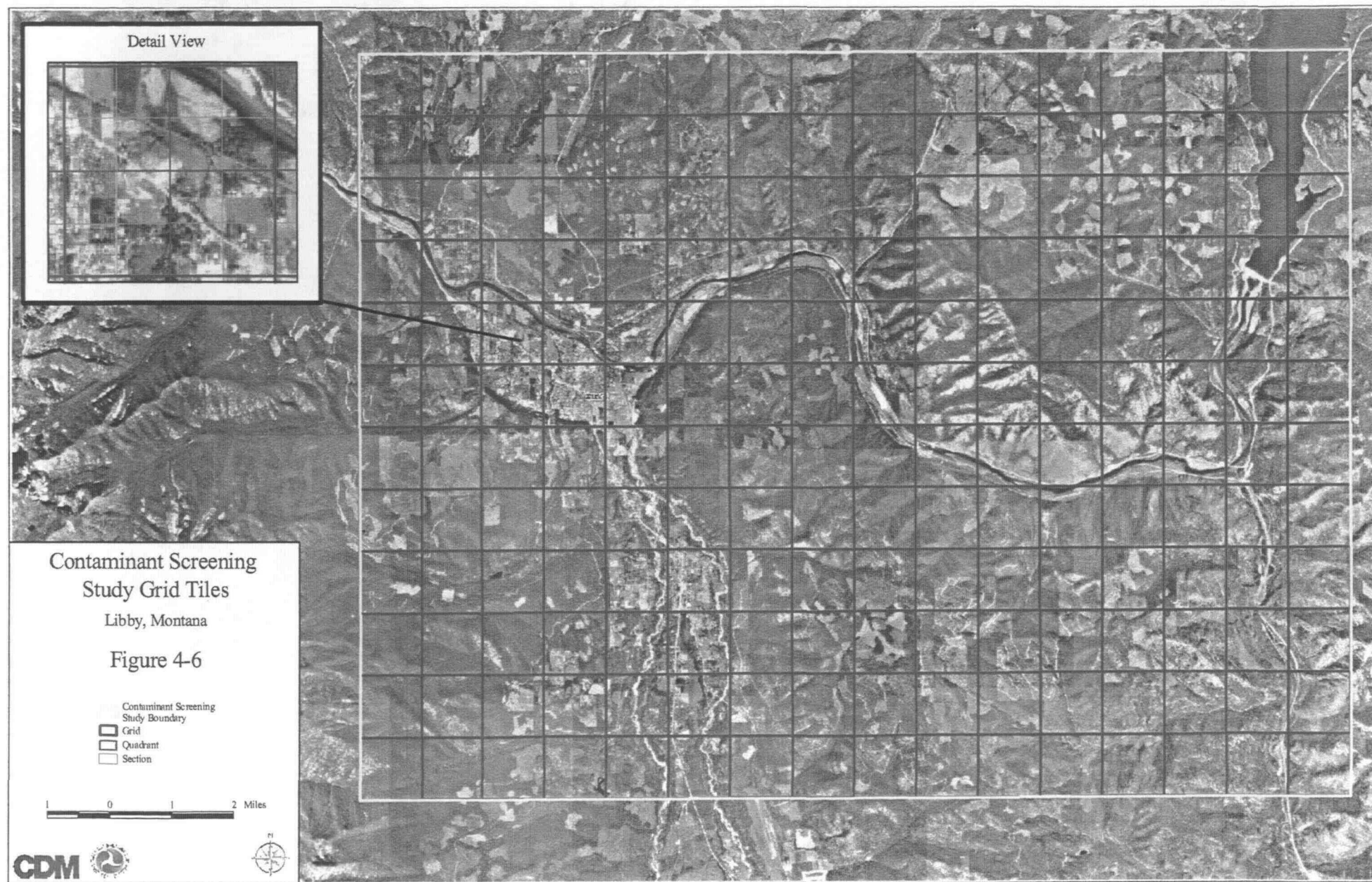
Figure 4-6 of CSS SAP

✓ Divided into 192, 1 square mile grids

✓ Grids divided into quarter square mile quadrants

✓ Quadrants divided into $\frac{1}{16}$ mi² sections

Grid 01 Quadrant A Section 1	Grid 01 Quadrant A Section 2	Grid 01 Quadrant B
Grid 01 Quadrant A Section 3	Grid 01 Quadrant A Section 4	
Grid 01 Quadrant C		Grid 01 Quadrant D
		7



Public Awareness is ***EVERYONE'S RESPONSIBILITY***

DO answer all questions truthfully.

DO NOT discuss a residents/owners personal analytical results or your opinion of their situation.

DO NOT promise a resident/owner that their property will be cleaned.

DO always ask a person who they are before you answer a question.

DO NOT speak to the press or W.R. Grace employees.

DO refer people to the EPA Information Center (293-6194) if they have questions or concerns you are unable to address.

DO NOT represent yourself, CDM, Volpe, and EPA AT ALL TIMES. Act accordingly.

Reconnaissance

Reconnaissance Team

Personal Visits to
Provide General Information
and Obtain
Access Agreements

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET, SUITE 300
DENVER, CO 80202

CONSENT FOR ENTRY AND ACCESS TO PROPERTY

Name: _____

Address: _____

Phone: _____

Address of Property for which consent to access is being granted:

Relationship to property: _____
(i.e., owner, 5-year tenant, etc.)

I consent to officers, employees, and authorized representatives of the United States Environmental Protection Agency (EPA) entering and having continued access to my property for the following purposes:

1. Air, wipe, bulk and soil sampling.
2. Such other actions as the EPA On-Scene Coordinator determines necessary to protect human health or welfare of the environment.

I realize that these actions by EPA are undertaken pursuant to its response authorities under the Comprehensive Environmental Response Compensation, and Liability Act of 1980, as amended (CERCLA), 41 U.S.C. Section § 9601 et seq.

I also realize that there may be loss of or damage to property during these actions. In addition, I realize EPA will be using my utilities, including heat, water and electricity.

This written permission is given by me voluntarily with knowledge of my right to refuse and without threats or promises of any kind.

I certify that this Consent for Entry and Access is entered into voluntarily and constitutes an unconditional consent and grant of permission for access to the property by officers, employees and authorized representatives of EPA at reasonable times.

Date

Signature

Field Screening and Sampling Activities

Reconnaissance Team

Verbal Interview

Visual Indoor Inspection

Outdoor Inspection

Structure Sketch

Property Sketch

Photographs

To be completed for each structure
(primary and secondary)

Sampling Team

Segregate Land Use
Areas

Determine Sample
Locations

Collect Soil Samples

Add Sample Locations
to Property Sketch

Record GPS Locations

Photographs

Reconnaissance Team

Verbal Interview

Screening process begins with verbal interview to gather background information. The information field form (IFF) is used to facilitate the interview process.

Primary Questions To Be Answered

- Is there any knowledge of former miners, close relatives of miners, or any highly-exposed persons living at or visiting the property?
- Is the resident, past or present, diagnosed with an asbestos-related disease?
- Did the interior ever have ZAI?

Reconnaissance Team

Visual Indoor Inspection

Purpose is to visually confirm the presence or absence of vermiculite insulation within each structure located on a property.

- Attic (under other types of insulation)
- Cabinets, electric outlets, cracks in ceiling and walls, breaker boxes

Primary Question To Be Answered

- Does the interior have ZAI?

***VISUAL CONFIRMATION OF THE
PRESENCE OR ABSENCE OF VERMICULITE
INSULATION MUST BE PERFORMED!!!!!!***

Reconnaissance Team

Outdoor Inspection

Inspect all exposed soil areas within the property, paying attention to areas where known primary sources of LA may have been introduced (e.g., gardens, landscaped areas) and “high traffic” areas where contamination is most likely to be tracked indoors. Location of all primary sources will be noted on the IFF property sketch.

Primary Questions To Be Answered

- Is there evidence of primary source materials on or near the property?
- Could this have been tracked indoors or otherwise spread outdoors on the property?

Reconnaissance Team Structure Sketch

- Completed only if vermiculite insulation is present
- Include all floors and rooms
- Completed on the IFF

Reconnaissance Team

Property Sketch

Completed on the IFF and include

- Structures
- Primary source locations
- Locations where visible vermiculite is observed
- Trees
- Drainage ditches
- Utility poles
- Known underground utilities (sprinkler lines, water lines, etc.)

Reconnaissance Team Photographs

Photographs should be taken of the front of the primary structure and any primary sources present in the living area.

- GISS will download and organize

Sampling Team

Segregate Land Use Areas

Samples will be collected from like land use areas.

Land use areas

- Yard
- Landscaped area
- Garden
- Fill area

Sampling Team

Determine Sample Locations

2 to 5, 5-point composite soil samples will be collected from each property, and will be collected from similar land use areas. May be biased to be collected **near** observed sources of vermiculite.

Samples will be collected from “high traffic” areas

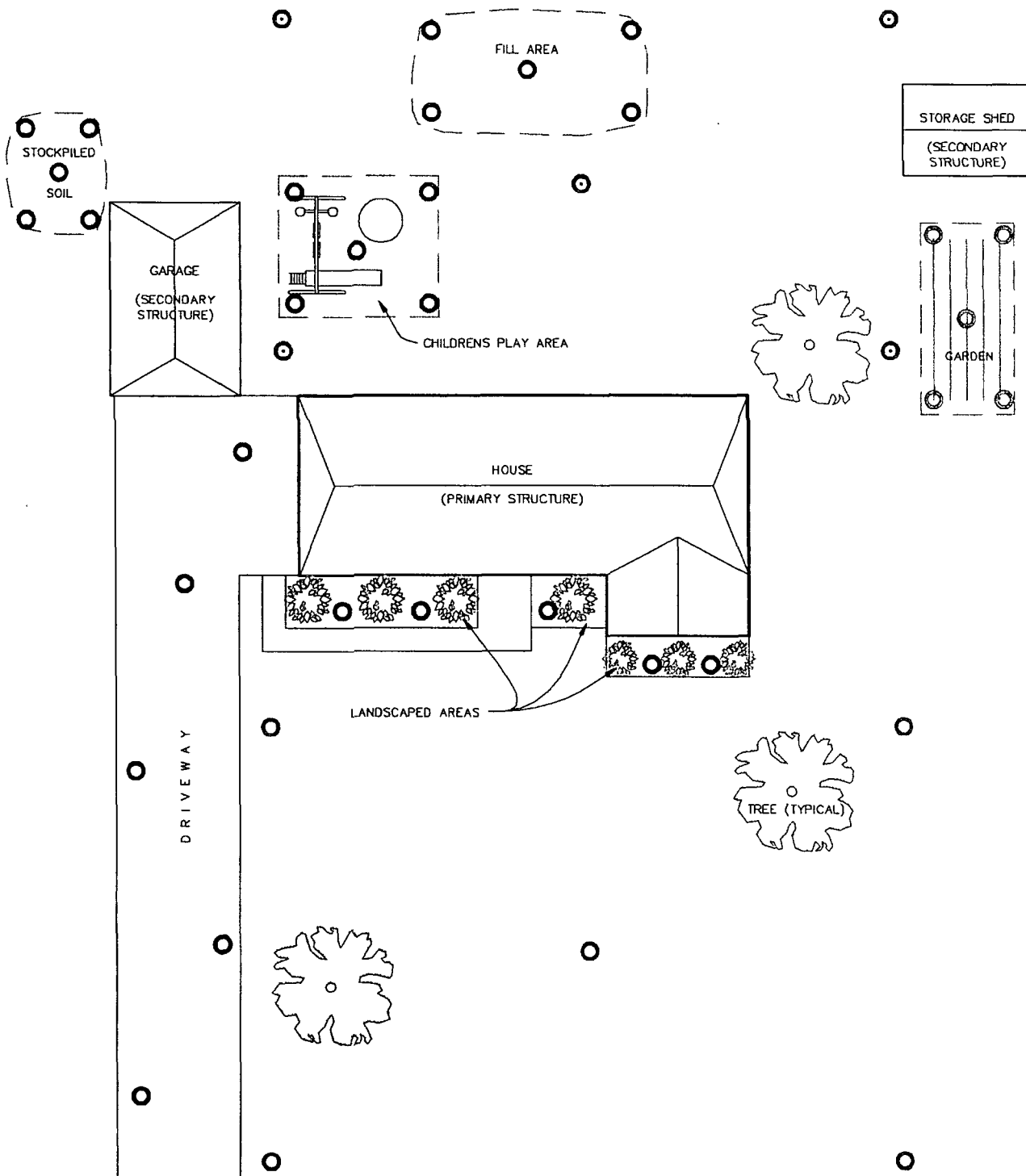
Samples will NOT be collected from land use areas where vermiculite is observed. Locations will be noted on the IFF, and the following information will be recorded in the logbook:

Approximate volume, percentage estimates, how long the source has been on the property.

Color Chart(s)

The following pages
contain color that does
not appear in the scanned
images.

To view the actual images,
please contact the
Superfund Records Center
at (303) 312-6473.



LEGEND

- DRIVEWAY SAMPLE (0-6")
- FRONT YARD SAMPLE (0-1")
- BACK YARD SAMPLE (0-1")
- LANDSCAPED AREA SAMPLE (0-6")
- GARDEN SAMPLE (0-6")
- OPPORTUNITY SAMPLE (0-6")

NOT TO SCALE

Figure 4-7

**Example Sampling
Locations and Property
Site Layout**

**Libby Asbestos Project
Libby, Montana**

CDM

Sampling Team

Soil Sampling

Sample Collection

Photographs

Field Duplicates

Field Equipment Blanks and Rinsate Samples

Field Sample Custody and Documentation

Logbook Documentation

Sample Labeling and Identification

Sample Packaging and Shipping

Equipment Decontamination

Investigation-Derived Waste

Collection of GPS Coordinates

Soil Sampling Sample Collection

CDM-LIBBY-05: Site Specific SOP for Soil Sample Collection will be followed for sample collection

- Non-disturbed areas: 0-1 inch
- Disturbed areas: 0-6 inches
- A 5-point composite sample will be collected for land use areas less than or equal to $\frac{1}{8}$ of an acre.
- Properties greater than $\frac{1}{2}$ acre: land use will be sectioned into areas less than or equal to $\frac{1}{8}$ of an acre.
- Subsamples will be collected from the center of the area and at each of the four compass points midway from the center to the boundary of the sample area
- Homogenize subsamples and fill quart-sized zip-lock $\frac{1}{3}$ full.

Soil Sampling Photographs

- Photographs should be taken of any outdoor primary sources
- GISS will download and organize

Soil Sampling

Field Duplicate Samples

Co-located samples collected by the field personnel, and submitted so the laboratory is unaware that the samples are duplicates.

Collected at a frequency of 5% (1 in 20) or one per day per sampling team, whichever is more frequent.

Soil Sampling

Field Equipment Blanks and Rinsate Samples

Section 5.4.2

Field Equipment Blanks

- One per day for the project duration from decontaminated equipment used to collect soil samples (spoons, mixing bowls, trowels, bulb planters) by one field team using silica sand

Rinsate Samples

- One per day for three, one-week periods from decontaminated equipment used to collect soil samples (spoons, mixing bowls, trowels, bulb planters) by one field team using locally-available deionized water

Soil Sampling Field Sample Custody and Documentation

CDM SOP 1-2 Sample Custody with modification
Project-specific COC form

Fields completed by SC

- Send to
- Via
- Sample Placed in Cooler/Bag
- Comments
- Additional Comments
- Sample Condition upon Receipt
- Page ____ of ____

Fields completed by Field Team

- Project
- Index ID
- Sample Date
- Sample Time
- Sample Matrix
- Sample Type
- Volume
- Analysis Requested
- Comments
- Total Number of Samples
- Additional Comments

Chain of Custody Record

Libby Asbestos Investigation

No. 000000

U.S. Environmental Protection Agency, Region VIII
999 18th Street, Suite 300
Denver, CO 80202-2413

Send to: _____

via: ☐ hand delivery ☐ shipped

Project (circle 1): Phase I Phase II Removal Action CSS

Sample Placed in Cooler/Bag	Index ID	Sample Date	Sample Time	Sample Matrix (S=Soil; W=Water; D=Dust; A=Air; B=Bulk Insulation)	Sample Type (G=Grab; C=Composite)	Volume (L) or Area (cm ²)	Analysis Request*	Comments	Sample Received by Lab
<input type="checkbox"/>									<input type="checkbox"/>
<input type="checkbox"/>									<input type="checkbox"/>
<input type="checkbox"/>									<input type="checkbox"/>
<input type="checkbox"/>									<input type="checkbox"/>
<input type="checkbox"/>									<input type="checkbox"/>
<input type="checkbox"/>									<input type="checkbox"/>
<input type="checkbox"/>									<input type="checkbox"/>
<input type="checkbox"/>									<input type="checkbox"/>
<input type="checkbox"/>									<input type="checkbox"/>
<input type="checkbox"/>									<input type="checkbox"/>

*Phase I: Air: preparation method EPA/540/2-90/005a, analytical method PCM (by NIOSH 7400), TEM (by ISO 10312 and AHERA). Dust: preparation method ASTM D5755-95, analytical method ISO 10312. Solid PLM: preparation and analysis by ISSI-LIBBY-01/NIOSH 9002. Soil IR: preparation and analysis method ISSI-LIBBY-02. Soil TEM: preparation method EPA/540/R-97/028, analytical method ISSI-LIBBY-01/ISO 10312. Phase II: Personal Air, Stationary Air: PCM (by NIOSH 7400), TEM (by Modified ISO 10312 – Phase 2 QAPP, approved 2/01), or TEM (AHERA) method. Bulk Insulation and Soil: PLM. Dust Samples: TEM (by ISO 10312). CSS: Soil SEM: preparation by ISSI-LIBBY-01, analytical method Asbestos Analysis of Soil by Scanning Microscopy and Energy Dispersive X-Ray Spectroscopy, Revision 0, July 11, 2000; Soil IR: preparation by ISSI-LIBBY-01, analytical method ISSI-LIBBY-02; Water: preparation by EPA 600/4-84-034, analytical method ISO 10312.

Total Number of Samples _____

END OF SUBMITTAL

Additional Comments:

Relinquished by (Signature and Company)	Date/Time	Received by (Signature and Company)	Date/Time	Sample Condition upon Receipt
---	-----------	-------------------------------------	-----------	-------------------------------

Relinquished by (Signature and Company)	Date/Time	Received by (Signature and Company)	Date/Time	Sample Condition upon Receipt
---	-----------	-------------------------------------	-----------	-------------------------------

Relinquished by (Signature and Company)	Date/Time	Received by (Signature and Company)	Date/Time	Sample Condition upon Receipt
---	-----------	-------------------------------------	-----------	-------------------------------

Soil Sampling
Logbook Documentation
CDM SOP 4-1 Logbook Documentation

Soil Sampling Sample Labeling and Identification

Index ID Numbers: CS-#####

The sample index identification (ID) number will be affixed to the inside of the bag, and the index ID number will be written on the outside of the bag with an indelible marker. The sample will then be double bagged with the same information recorded on the outer bag.

Soil Sampling

Sample Packaging and Shipping

CDM SOP 2-1, Packaging and Shipping of
Environmental Samples, with modification

Responsibility of sample coordinator

MODIFICATIONS TO SOP

- Vermiculite (or other absorbent material), bubble wrap, or ice will not be used.
- Lining the cooler with a garbage bag is determined not be necessary since the samples will already be double-bagged.

Soil Sampling Equipment Decontamination

CDM SOP 4-5, Field Equipment Decontamination at
Nonradioactive Sites, with modification

MODIFICATIONS TO SOP

- Plastic sheeting will not be used during decontamination. ASTM Type II water will not be used. Rather, locally-available DI water will be used.
- Decontamination water will not be captured, packaged, labeled, or stored as IDW, and will be discharged to the ground at the property.

Soil Sampling Investigation-Derived Waste

CDM SOP 2-2, Guide to Handling IDW, with modifications

MODIFICATIONS TO SOP

- All spent sampling IDW (paper towels, respirator cartridges, PPE) will be collected in a transparent garbage bag and marked "IDW" with an indelible marker. These bags will be deposited into the asbestos-contaminated waste stream for disposal.

Sampling Team

Record GPS Locations

Data Dictionary

GPS Download Procedure - GISS

LOCATION ID NUMBERS

AD = address ID number

GPS point given to a property (110 Main Street)

BD = building ID number

GPS point given to a building (barn at 110 Main Street)

SP = sample point ID number

GPS point given to a sample point (sample CSS-00111 at 110 Main Street)

Sample Analysis and Data Validation

All samples will be analyzed using infrared reflectance (IR) spectroscopy; additional analysis may be requested by the sample coordinator and/or laboratory coordinator.

Data validation will be completed by validation personnel in the CDM Denver and Helena offices.

Field Paperwork

- Access Agreement
- Information Field Form
- Field Sample Data Sheets
- Chain-of-Custody Forms
- Logbooks

All field paperwork will be distributed by the sample coordinator or sample coordinator assistant.

The proper distribution of paper work is the responsibility of the sample coordinator AND the field teams!!!!

Libby Paperwork Stream

	Access Agreement	Information Field Form	Field Data Sheet	Logbook Pages
Libby Field Office	●	◆ ▲	▲	▲
CDM - Helena	■	■	■	■
CDM - Denver	■	■	■	■

- = file ORIGINAL in residential folder
- ▲ = file COPY in residential folder
- ◆ = file ORIGINAL in appropriate wire basket in Sample Coordinator cubicle
- = file COPY in appropriate wire basket in Sample Coordinator cubicle

Reminders:

- Turn in your paperwork DAILY
- Obtain sample labels and field forms for no more than 2-3 day's worth of work
- Write legibly
- Press firmly on chain-of-custody forms
- Copy paperwork dark enough to be clearly read and be reproducible from that copy
- Block out any logbook information not applicable to a residence so confidentiality is maintained

If you need a logbook or field paperwork, see the Sample Coordination Team

QA/QC Program

Reconnaissance and Soil Sampling Team Orientation

Field Form Completion Checks

Supplemental Verification

Screening Field Checks

Field Audits

Field Duplicate Samples (1 in 20)

Field Equipment Blanks and Rinsate Samples (1 per day)

Daily Schedule

7:00 AM

Morning Meeting and Daily Health and Safety Tailgate

7:45 to 8:00 AM

Demobilized from office to begin reconnaissance and sampling

8:00 AM – Noon

Reconnaissance and Sampling

Noon – 1:00 PM

LUNCH

1:00 – 7:00 PM (LATEST)

Reconnaissance and sampling

Last hour

Daily Reports, Complete paperwork and filing

Daily Report Format

L:\Daily Reports\CSS Investigation

Reconnaissance Team

- Address
- BD numbers assigned and structure description
- Access agreements (Y/N)
- Indoor Visual Inspection completed (Y/N)
- Verbal Interview completed (Y/N)
- Libby Vermiculite Present in Attic (Y/N)

Sampling Team

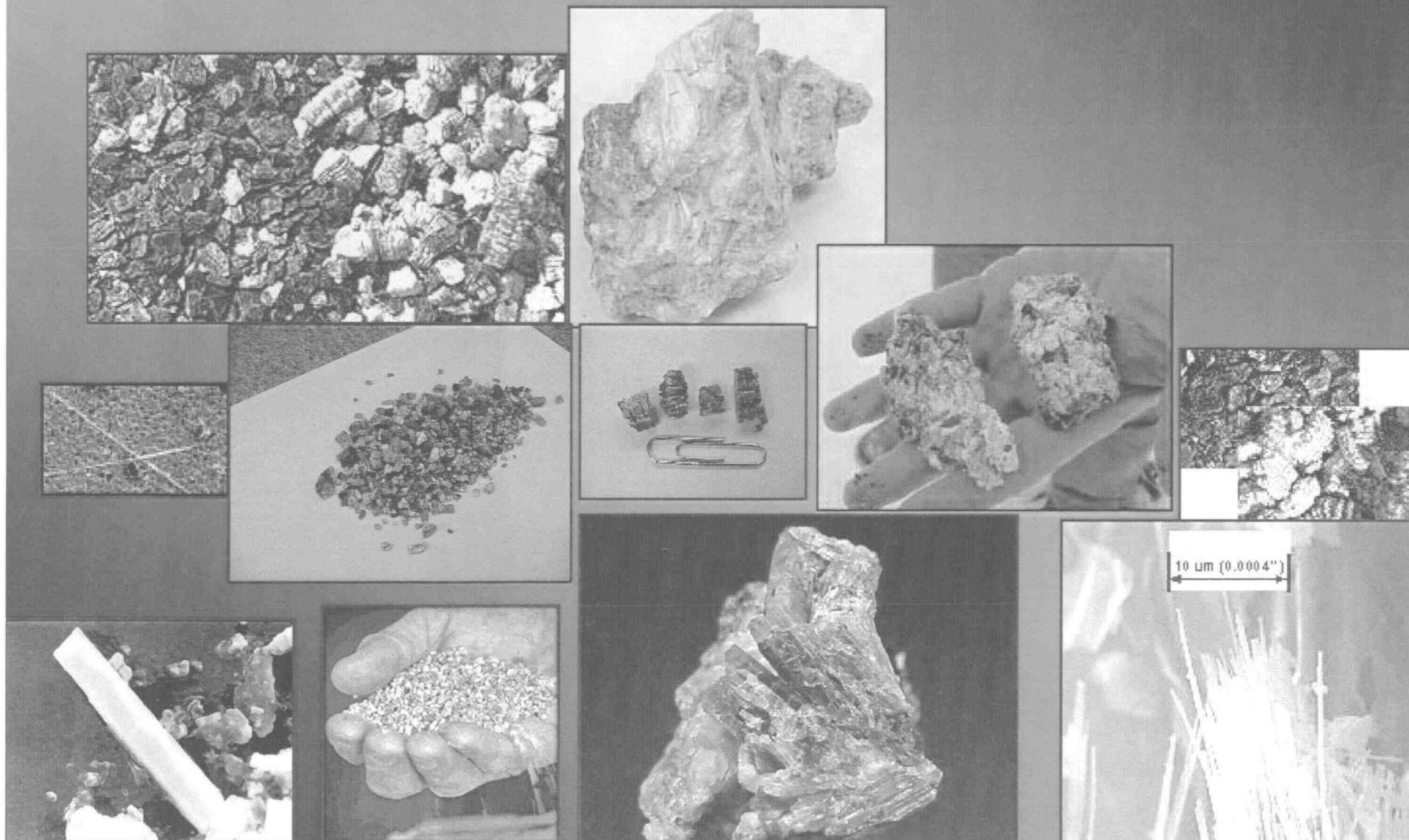
- Address
- Index ID of soil samples
- FSDS #
- COC#
- Location of observed vermiculite

File naming convention:

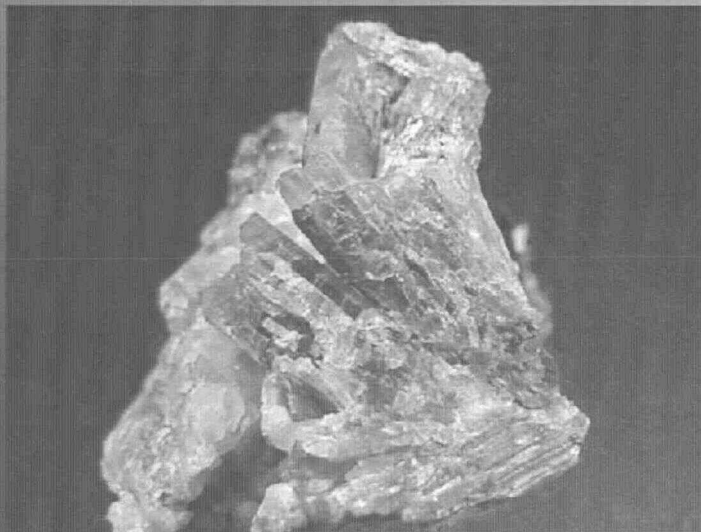
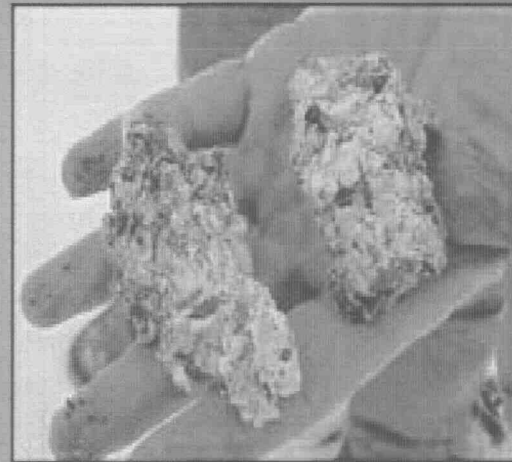
Team # _ Date

Example: Team1_050702₄₀

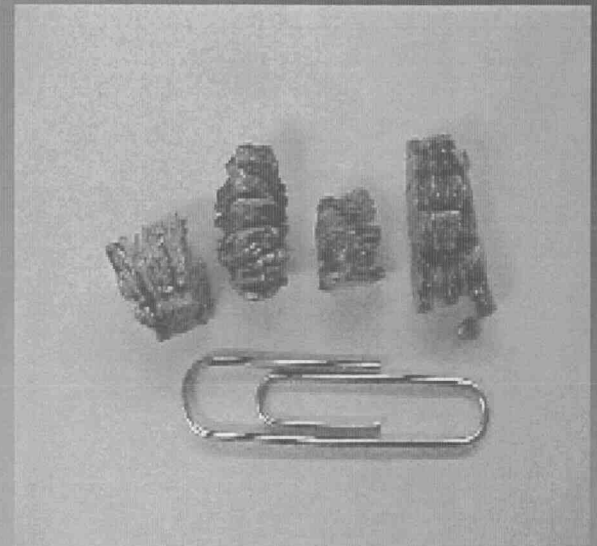
Identification of LA sources



Tremolite Rocks



Vermiculite



Unexpanded (not popped)

Expanded (popped⁴³)